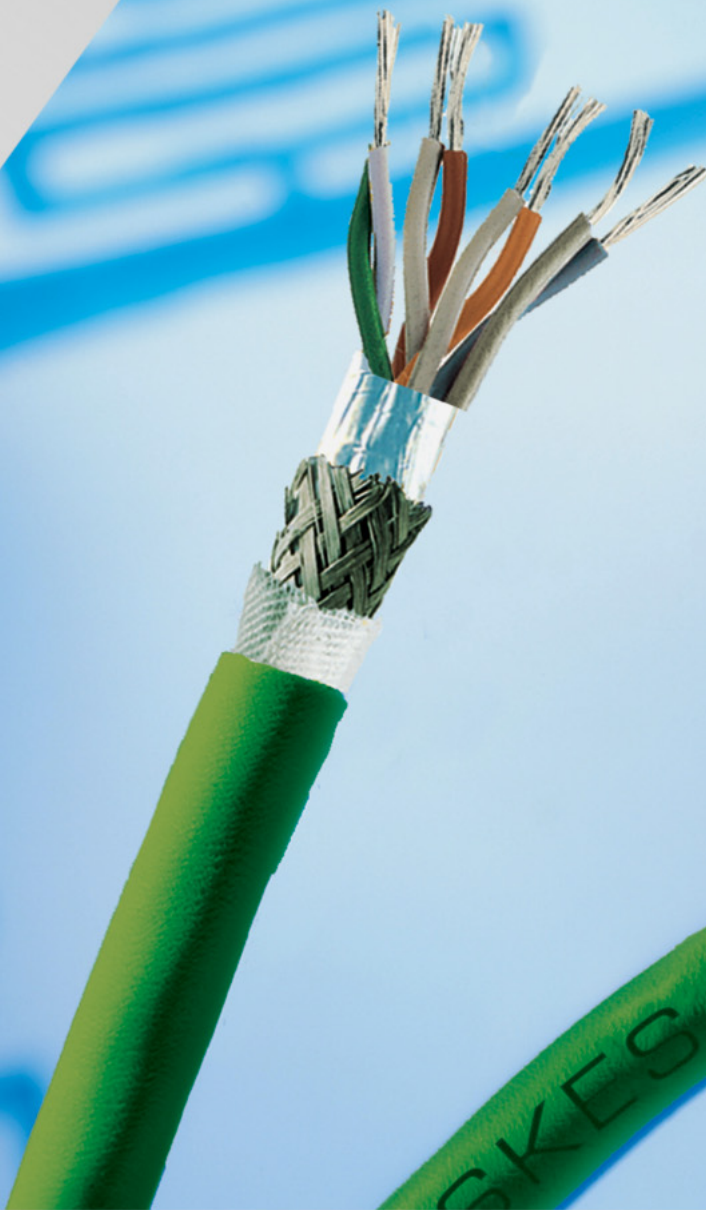


INDUSTRIAL ETHERNET CABLES





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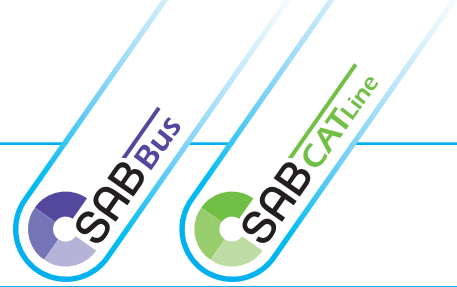
NEW

NEW

NEW

NEW

NEW



SAB^{Rail}

- CATLine CAT 5e R
- CATLine CAT 6A R
- CATLine CAT 7A R
- CATLine CAT 5e R flex
- CATLine CAT 6A R flex
- CATLine CAT 7A R flex




Industrial Ethernet Cables especially for use in rail vehicles acc. to EN 45545-2

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SAB^{BL-Line}

- CATLine CAT 5e BL
- CATLine CAT 6A BL
- CATLine CAT 7A BL




Industrial Ethernet Cables especially for maritime use

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SAB^{Clean}

- SAB^{clean} CATLine CAT 5e S
- SAB^{clean} CATLine CAT 6A S
- SAB^{clean} CATLine CAT 7A S

Industrial Ethernet Cables especially for clean room technology

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Applications



Applications of Industrial ETHERNET cables

Industrial Ethernet is a quickly developing network technology. Ethernet with the worldwide accepted TCP/IP (Transmission Control Protocol/Internet Protocol) will be the future connection to the well established field bus or sensor / actuator level. Generally, the following transmission rates are divided into:

- SHARED ETHERNET = 10 Mbit/s
- FAST ETHERNET = 100 Mbit/s (CAT 5 requirements)
- GIGABIT ETHERNET = 1000 Mbit/s (1 Gbit/s)

SAB Bröckskes developed a variety of cable solutions due to the strong innovative force of automation industry. Depending on the application, we are able to offer today CAT 5, CAT 6 and CAT 7 cable solutions for flexible and continuous flexible use, for chemical and thermal stress as well as special cable constructions for reeling purpose and robot operation.

Family business in the third generation

75 years of experience in cable and wire manufacturing as well as in temperature measurement technology turned a one-man business into a company with more than 550 employees. We prove our strength every year with more than 1500 special products according to customers' requirements. Each product is a new challenge for our creative technical team. We at **SAB** see ourselves as a manufacturer and a service provider – in the sense of true partnership and the greatest possible customer orientation.

Today, the quality of our products is known and appreciated in more than 100 countries around the world. In all product ranges, we are certified according to DIN EN ISO 9001. Furthermore, we have implemented an environmental management system for our company according to DIN EN ISO 14001, an occupational health and safety management system according to NLF/ILO-OSH and DIN ISO 45001, and an energy management system according to DIN EN ISO 50001.

And also for the future, our slogan is: **"WE GO FORWARD!"**

FOUNDED:	1947 by Peter Bröckskes sen. an independent, medium-sized company.
CEO:	Peter Bröckskes and Sabine Bröckskes-Wetten
PLANT/LOCATION:	In Viersen (Lower Rhine) 110.000 m ² company site. Own manufacturing from copper conductor to outer sheath. VDE approved burnchamber and laboratory within the company.
EMPLOYEES/WORKERS:	approx. 430 at the plant in Viersen, 550 worldwide
YEARLY SALES:	over 134 Mio. € worldwide
PRODUCTS:	Special Cables Measurement Technology Cable Harnessing
CERTIFICATES AND APPROVALS:	Quality management system acc. to DIN EN ISO 9001 for every manufacturing field Environmental management system acc. to DIN EN ISO 14001 Occupational health and safety management acc. to NLF/ILO-OSH and DIN ISO 45001 Energy management system acc. to DIN EN ISO 50001



Industrial Ethernet Cables

Production possibilities

Flexible cables and wires “Made in Germany”

As a leading manufacturer we develop and produce cables for industrial purposes.

Our wide range of materials offers a lot of possibilities for your individual product requirement.

The following survey shows an extract of our production possibilities:

Conductor Materials:

- ✓ bare copper
- ✓ tinned copper
- ✓ silver plated copper
- ✓ nickel plated copper
- ✓ nickel
- ✓ nickel pure
- ✓ compensating cable alloys

Insulation and Jacketing Materials:

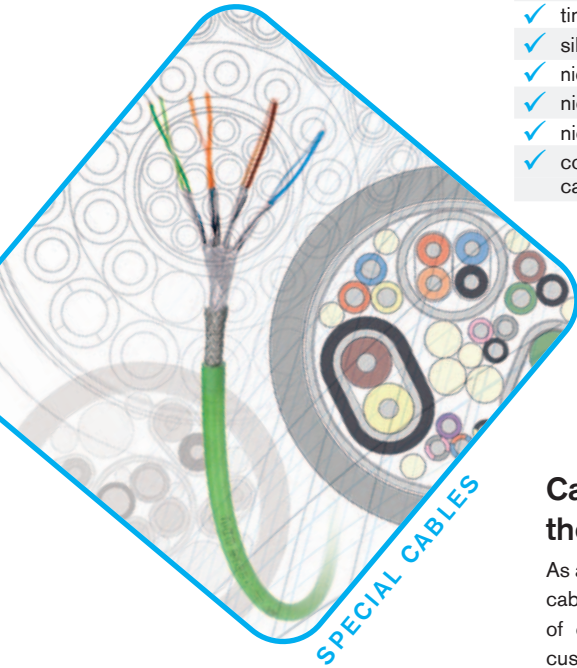
- ✓ PVC
- ✓ Polyethylene
- ✓ Polypropylene
- ✓ Polyurethane
- ✓ TPE
- ✓ SABIX® (zero halogen)
- ✓ Besilen® - Silicone
- ✓ FEP, ETFE, PFA, PTFE
- ✓ PI foil
- ✓ Fibreglass

Temperature Ranges:

- Thermoplastic Elastomers
- ✓ -50°C up to +145°C
- SABIX®
- ✓ -50°C up to +220°C
- Besilen® - Silicone
- ✓ -40°C up to +220°C
- FEP, ETFE, PFA
- ✓ -90°C up to +260°C
- Fibreglass
- ✓ up to +600°C

Conductors:

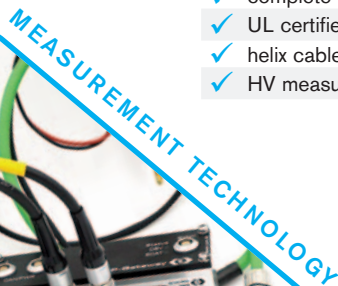
- ✓ cross sections 0,055 - 300 mm²
- ✓ unshielded and shielded over 100 conductors



Cable harnessing directly from the manufacturer SAB:

As a full service partner we are able to offer besides cable design and production the manufacturing of cable harnessing products according to customer's request. Please trust on our experience for decades in the treatment of cables and connectors.

- ✓ cable harness according to customer's demands
- ✓ complete cable harness
- ✓ UL certified assemblies
- ✓ helix cables
- ✓ HV measuring harness



Measuring technology for industrial applications

Manufacturer of temperature sensors for industrial applications with 75 years of experience!

- ✓ mineral insulated thermocouples
- ✓ mineral insulated resistance thermometers
- ✓ temperature sensors
- ✓ mobile high voltage measuring technology
- ✓ temperature sensors for vehicle testing

Industrial Ethernet Cables Profinet



PN 662 Profinet type B, for flexible applications

S PN 668 Profinet type C, continuously flexible

PN 663 Profinet type B, for flexible applications with UL recognition

S PN 669 Profinet type C, continuously flexible with UL recognition



Marking for S PN 669 06692202:

SAB BRÜCKSKES · D-VIERSEN · S PN 669 Profinet CAT 5 Typ C 2x2x22AWG AWM Style 21198 80° 300V CE

Construction:	PN 662 Profinet type B <i>flexible</i>	S PN 668 Profinet type C <i>continuously flexible</i>	PN 663 Profinet type B <i>flexible</i>	S PN 669 Profinet type C <i>continuously flexible</i>
Dimension:	2 x 2 x 22 AWG			
Conductor:	tinned copper strands, fine wires with reference to VDE 0812	tinned copper strands, extra fine wires	tinned copper strands, fine wires with reference to VDE 0812	tinned copper strands, extra fine wires
Insulation:	PE, L/MD acc. to EN 50290-2-23	PE	PE, L/MD acc. to EN 50290-2-23	PE
Colour code:	blue, yellow, white, orange			
Stranding:	in layers			
Wrapping:	PETP foil			
Inner sheath:	thermoplastic material			
Screen:	alu foil and tinned copper braiding			
Wrapping:	---	non-woven tape	---	non-woven tape
Sheath material:	PVC	PUR	PVC	PUR
Sheath colour:	green (similar RAL 6018)			

Technical data:	PN 662 Profinet type B <i>flexible</i>	S PN 668 Profinet type C <i>continuously flexible</i>	PN 663 Profinet type B <i>flexible</i>	S PN 669 Profinet type C <i>continuously flexible</i>
Item number:	0662-2202	0668-2202	0663-2202	0669-2202
Peak operating voltage:	max. 350 V			
Voltage UL:	---		300 V	
Testing voltage				
core/core:	1500 V		2000 V	
core/screen:	1200 V		2000 V	
Min. bending radius				
fixed laying:	5 x d	5 x d	5 x d	5 x d
flexible application:	10 x d	10 x d	10 x d	10 x d
continuously flexible:		15 x d		15 x d
Temperature range VDE				
fixed laying:	-30/+70 °C	-40/+70 °C	UL: up to +80 °C -30/+70 °C	UL: up to +80 °C -30/+70 °C
flexible application:	-5/+70 °C	-30/+70 °C	-5/+70 °C	-20/+70 °C
Halogen-free:	---	acc. to IEC 60754-1 + VDE 0482-754-1	---	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	acc. to internal standard	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	acc. to internal standard	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance:	100Ω ± 5Ω, fulfils the electrical and transmission requirements with high frequency acc. to EN 50288-2-2 + VDE 0819-2-2 (CAT 5 acc. to EN 50173-1)			
UL Style:	---		20601	21198
Application:	suitable for EtherCAT and EtherNET/IP applications			
Absence of harmful substances:	acc. to RoHS directive of the European Union			

06622202	PN 662	2 x 2 x 22 AWG	1,55	6,1	33,9	57	58,0
06682202	S PN 668	2 x 2 x 22 AWG	1,55	6,4	36,7	58	58,0
06632202	PN 663	2 x 2 x 22 AWG	1,55	6,5	36,2	66	58,0
06692202	S PN 669	2 x 2 x 22 AWG	1,55	6,9	36,7	69	58,0

Also possible as harnessed cable with M12 or RJ 45 plug!



Industrial Ethernet Cables Profinet



PN 654 Profinet type A, for fixed installation

PN 660 Profinet type B, for flexible applications

PN 654 UL Profinet type A, for fixed installation UL recognition

PN 661 Profinet type B, for flexible applications UL recognition

B 2x2x22AWG AWM Style 21080 75° 300V



Marking for PN 661 06612202:

SAB BRÜCKSKES · D-VIERSEN · S PN 661 Profinet CAT 5 Typ B 2x2x22AWG AWM Style 21080 80° 300V

with „Fast Connect“ construction



Construction:	PN 654 Profinet type A <i>fixed laying</i>	PN 654 UL Profinet type A <i>fixed laying</i>	PN 660 Profinet type B <i>flexible</i>	PN 661 Profinet type B <i>flexible</i>
Dimension:	2 x 2 x 22 AWG			
Conductor:	bare copper wire		bare copper strands, fine wires with reference to VDE 0812	
Insulation:	PE, L/MD acc. to EN 50290-2-23	SABIX®	PE, L/MD acc. to EN 50290-2-23	
Colour code:	blue, yellow, white, orange			
Stranding:	star quad			
Wrapping:	PETP foil			
Inner sheath:	---	PVC	thermoplastic material	
Screen:	tinned copper braiding	alu foil and tinned copper braiding		
Wrapping:	---		non-woven tape	
Sheath material:	PVC		SABIX®	
Sheath colour:	green (similar RAL 6018)			

Technical data:	PN 654 Profinet type A <i>fixed laying</i>	PN 654 UL Profinet type A <i>fixed laying</i>	PN 660 Profinet type B <i>flexible</i>	PN 661 Profinet type B <i>flexible</i>
Item number:	0654-2202	0654-9002	0660-2202	0661-2202
Peak operating voltage:	max. 350 V			
Voltage UL:	---	300 V	---	300 V
Testing voltage core/core: core/screen:	1500 V 1200 V	2000 V 2000 V	1500 V 1200 V	2000 V 2000 V
Min. bending radius fixed laying: flexible application:	5 x d		5 x d 12 x d	
Temperature range VDE fixed laying: flexible application:	-30/+70 °C -5/+70 °C	UL: up to +80 °C -30/+70 °C -5/+70 °C	-30/+70 °C -20/+70 °C	UL: up to +75 °C -40/+70 °C -30/+70 °C
Halogen-free:	---		acc. to IEC 60754-1 + VDE 0482-754-1	
Oil resistance:	acc. to internal standard		---	
Characteristic impedance:	100Ω ± 5Ω, fulfils the electrical and transmission requirements with high frequency acc. to EN 50288-2-2 + VDE 0819-2-2 (CAT 5 acc. to EN 50173-1)			
UL Style:	---	2464	---	21080
Application:	suitable for EtherCAT and EtherNET/IP applications			
Absence of harmful substances:	acc. to RoHS directive of the European Union			

06542202	PN 654	2 x 2 x 22 AWG	1,55	5,3 ± 5%	28,0	43	54,1
06549002	PN 654 UL	2 x 2 x 22 AWG	1,55	6,5 ± 0,2 mm	32,2	66	54,1
06602202	PN 660	2 x 2 x 22 AWG	1,55	6,6 ± 5%	36,2	67	55,4
06612202	PN 661	2 x 2 x 22 AWG	1,55	6,6 ± 5%	36,2	70	55,4

Also possible as harnessed cable with M12 or RJ 45 plug!

CABLE ASSEMBLY POSSIBLE

Industrial Ethernet Cables Profinet

S PN 667

Profinet type C, continuously flexible with UL recognition, CSA approval



198 80°C 300V CSA AWM I/II A/B 80°C 300V FT2 CE



Marking for S PN 667 06672202:

SAB BRÜCKSKES · D-VIERSEN · S PN 667 Industrial Ethernet FC Cat 5 Typ C 2x2x22AWG AWM Style 21198 80°C 300V CSA AWM I/II A/B 80°C 300V FT2 CE

Construction:

Conductor:	tinned copper strands, 7 wires
Insulation:	special polymer
Colour code:	blue, yellow, white, orange
Stranding:	in layers
Wrapping:	PETP foil
Inner sheath:	thermoplastic material
Screen:	alu foil and tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	PUR
Sheath colour:	green (similar RAL 6018)

Technical data:

Peak operating voltage:	max. 350 V
Voltage UL/CSA:	300 V
Testing voltage:	core/core 2000 V core/screen 2000 V
Min. bending radius	
<i>fixed laying:</i>	5 x d
<i>flexible application:</i>	10 x d
<i>continuously flexible:</i>	15 x d
Temperature range	UL/CSA: up to +80 °C
<i>fixed laying:</i>	-40/+70 °C
<i>flexible application:</i>	-40/+70 °C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance:	100Ω ± 5Ω, fulfils the electrical and transmission requirements with high frequency acc. to EN 50288-2-2 + VDE 0819-2-2 (CAT 5 acc. to EN 50173)
UL Style:	21198
Application:	suitable for EtherCAT and EtherNET/IP applications
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	type	dimension	max. core-ø mm	outer-ø mm	copper figure kg/km	cable weight ≈kg/km	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
06672202	S PN 667	2 x 2 x 22 AWG	1,55	6,5 ± 0,2	33,8	60	58,8

Other dimensions and colours are possible on request.

For extreme bending stress - conductor construction 19 wires:

item no.	type	dimension	max. core-ø mm	outer-ø mm	copper figure kg/km	cable weight ≈kg/km	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
06679001	S PN 667	2 x 2 x 22 AWG	1,55	6,5 ± 0,2	33,8	58	58,8

Other dimensions and colours are possible on request.



short assembling time
by „Fast Connect“
construction (7 wires)

Also possible
as harnessed cable
with M12 or RJ 45 plug!



Industrial Ethernet Cables CAT 5

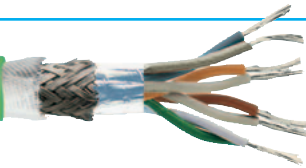
PN 678 Ethernet cable type A, for fixed installation

PN 679 Ethernet cable type B, for flexible applications

S PN 681 Ethernet cable type C, continuously flexible



D-VIERSEN · S PN 681 CAT 5 Typ C 4x2x26AWG CE



Marking for S PN 681 06812604:

SAB BRÖCKSKES · D-VIERSEN · S PN 681 CAT 5 Typ C 4x2x26AWG CE

Construction:	PN 678 Ethernet cable type A <i>fixed laying</i>	PN 679 Ethernet cable type B <i>flexible</i>	S PN 681 Ethernet cable type C <i>continuously flexible</i>
Dimension:	4 x 2 x 26 AWG		
Conductor:	tinned copper wire	tinned copper strands, fine wires with reference to VDE 0812	tinned copper strands, extra fine wires
Insulation:	PE, L/MD acc. to EN 50290-2-23		SABIX®
Colour code:	white cores with numbers 1 - 4 + (blue, orange, green, brown)		
Stranding:	twisted to pairs and pairs together		
Wrapping:	---	PETP foil	non-woven tape
Screen:	alu foil and tinned copper braiding		
Wrapping:	---	non-woven tape	
Sheath material:	PVC	PUR	
Sheath colour:	green (similar RAL 6018)		

Technical data:	PN 678 Ethernet cable type A <i>fixed laying</i>	PN 679 Ethernet cable type B <i>flexible</i>	S PN 681 Ethernet cable type C <i>continuously flexible</i>
Item number:	0678-2604	0679-2604	0681-2604
Peak operating voltage:	max. 350 V		
Testing voltage core/core: core/screen:	1500 V 1200 V		
Min. bending radius fixed laying: flexible application: continuously flexible:	5 x d	5 x d 10 x d	5 x d 10 x d 12 x d
Temperature range VDE fixed laying: flexible application:	-30/+70 °C -5/+70 °C	-40/+70 °C -40/+70 °C	-40/+90 °C -30/+90 °C
Halogen-free:	---	acc. to IEC 60754-1 + VDE 0482-754-1	
Oil resistance:	acc. to internal standard	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	
Characteristic impedance:	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 + VDE 0819-2-2 (CAT 5 acc. to EN 50173-1)		
Application:	suitable for EtherCAT and EtherNET/IP applications		
Absence of harmful substances:	acc. to RoHS directive of the European Union		

item no.	type	dimension	max. core-ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈kg/km	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
06782604	PN 678	4 x 2 x 26 AWG	1,10	6,2	33,0	48	150
06792604	PN 679	4 x 2 x 26 AWG	1,05	6,9	35,0	54	148
06812604	S PN 681	4 x 2 x 26 AWG	1,10	7,2	35,5	58	145

Other dimensions and colours are possible on request.

Also possible
as harnessed cable
with M12 or RJ 45 plug!



Industrial Ethernet Cables CAT 5

DR PN 689 P Highflex

reeling Profinet cable / CAT 5 cable



3 · D-VIERSEN · DR PN 689 P Highflex 2x2x22AWG CE



Marking for DR PN 689 P Highflex 06892202:

SAB BRÜCKSKES · D-VIERSEN · DR PN 689 P Highflex 2x2x22AWG CE

Construction:	DR PN 689 P Highflex reeling Profinet cable	DR PN 689 P Highflex reeling CAT 5 cable
Dimension:	2 x 2 x 22 AWG	4 x 2 x 26 AWG
Conductor:	tinned copper strands, fine wires	
Insulation:	SABIX®	
Colour code:	blue, yellow, white, orange	blue, orange, green, brown + 4 white cores with consecutive numbers
Stranding:	in layers	twisted to pairs and pairs together
Wrapping:	PETP foil	
Inner sheath:	SABIX®	
Screen:	alu foil and tinned copper braiding	
Wrapping:	non-woven tape	
Sheath material:	PUR / supporting braid / PUR	
Sheath colour:	green (similar RAL 6018)	black (similar RAL 9005)

Technical data:	DR PN 689 P Highflex reeling Profinet cable	DR PN 689 P Highflex reeling CAT 5 cable
Item number:	0689-2202	0689-9001
Peak operating voltage VDE:	max. 350 V	
Testing voltage core/core: core/screen:	1500 V 1200 V	
Min. bending radius	for laying and installation (fixed laying): 5 x d for repeated winding action (flexible application): 10 x d guided on pulleys (flexible application): 12 x d	
Temperature range VDE fixed laying: flexible application:	-40/+90 °C -30/+90 °C	
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	
Oil resistance:	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	
Characteristic impedance:	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 + VDE 0819-2-2 (CAT 5 acc. to EN 50173-1)	
Application:	suitable for EtherCAT and EtherNET/IP applications	
Absence of harmful substances:	acc. to RoHS directive of the European Union	

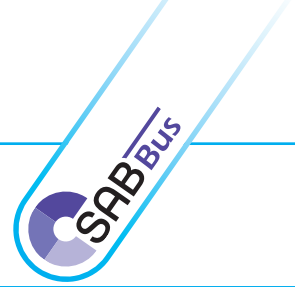
item no.	type	dimension	outer-ø approx. mm	copper figure kg/km	cable weight ≈kg/km	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km	tensile strength max. N	characteristic impedance
06892202	DR PN 689 P Highflex	2 x 2 x 22 AWG	8,2	36,2	83	58,8	200	100Ω
06899001	DR PN 689 P Highflex	4 x 2 x 26 AWG	8,7	34,3	85	139	200	100Ω

Other dimensions and colours are possible on request.

Also possible
as harnessed cable
with M12 or RJ 45 plug!



Industrial Ethernet Cables CAT 5



RT PN 668 PUR Profinet cable, suitable for robots

PN 668 PUR Profinet cable type R, suitable for robots with UL recognition

2x2x22AWG 0668-9039 AWM Style 21198 80° 300V



Marking for PN 668 06689039:

SAB BRÜCKSKES · D-VIERSEN · PN 668 Typ R 2x2x22AWG 0668-9039 AWM Style 21198 80° 300V



Construction:	RT PN 668 Profinet <i>suitable for robots</i>	RT PN 668 Profinet type R <i>suitable for robots</i>
Dimension:	2 x 2 x 22 AWG	
Conductor:	tinned copper strands, extra fine wires	
Insulation:	special polymer	
Colour code:	blue, yellow, white, orange	
Stranding:	star quad	cores twisted to pairs and pairs together
Wrapping:	tape	non-woven tape
Screen:	alu foil and tinned copper braiding	tinned copper braiding
Wrapping:	non-woven tape	special non-woven tape
Sheath material:	PUR	
Sheath colour:	green (similar RAL 6018)	

Technical data:	RT PN 668 Profinet <i>suitable for robots</i>	RT PN 668 Profinet type R <i>suitable for robots</i>
Item number:	0668-9001	0668-9039
Peak operating voltage:	max. 350 V	max. 30 V
Voltage UL:	---	300 V
Testing voltage core/core: core/screen:	1500 V 1200 V	2000 V 2000 V
Min. bending radius fixed laying: flexible application:	10 x d	3 x d 10 x d
Temperature range fixed laying: flexible application:	-40/+70 °C -30/+70 °C	UL: up to +80 °C -40/+70 °C -30/+70 °C
Torsion angle:	up to ±360°/m	
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	
Oil resistance:	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	
Characteristic impedance:	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 + VDE 0819-2-2 (CAT 5 acc. to EN 50173-1)	
UL Style:	---	21198
Application:	suitable for EtherCAT and EtherNET/IP applications	
Absence of harmful substances:	acc. to RoHS directive of the European Union	

item no.	type	dimension	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈kg/km	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
06689001	RT PN 668	2 x 2 x 22 AWG	7,0	36,3	62	58,8
06689039	PN 668	2 x 2 x 22 AWG	7,8	36,7	68	58,8

Other dimensions and colours are possible on request.

Also possible
as harnessed cable
with M12 or RJ 45 plug!



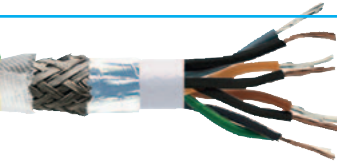
Industrial Ethernet Cables CAT 5



S PN 668 Hybrid

Hybrid cable type C, continuously flexible, suitable for cable tracks with UL recognition

AWM Style 20233 80°C 300V 0668-9010



Marking for S PN 668 Hybrid 06689010:

SAB BRÖCKSKES · D-VIERSEN · S PN 668 Hybrid (2x2x22 AWG) + 4x1,5mm² AWM Style 20233 80°C 300V 0668-9010

Construction:

Conductor:	22 AWG: tinned copper strands, extra fine wires 1,5 mm ² : bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	22 AWG: SABIX® 1,5 mm ² : TPE
Colour code:	22 AWG: blue, yellow, white, orange 1,5 mm ² : black cores with consecutive numbers acc. to EN 50334 + VDE 0293-334
Stranding:	22 AWG: in layers, together in layers
Wrapping:	22 AWG: PETP foil
Inner sheath:	22 AWG: SABIX®
Screen:	22 AWG: alu foil and tinned copper braiding
Wrapping:	22 AWG: non-woven tape
Wrapping:	non-woven tape
Sheath material:	PUR
Sheath colour:	green (similar RAL 6018)

Technical data:

Peak operating voltage:	max. 350 V
Voltage UL:	300 V
Testing voltage:	core/core 2000 V core/screen 2000 V
Min. bending radius	
fixed laying:	5 x d
flexible application:	10 x d
continuously flexible:	12 x d
Temperature range	UL/CSA: up to +80 °C
fixed laying:	-40/+90 °C
flexible application:	-30/+90 °C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance:	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 + VDE 0819-2-2 (CAT 5 acc. to EN 50173)
UL Style:	20233
Application:	suitable for EtherCAT and EtherNET/IP applications
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	type	dimension	max. core-ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈kg/km	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
06689010	S PN 668 Hybrid	2 x 2 x 22 AWG + 4 x 1,5 mm ²	1,50 / 2,15	10,0	94,1	158	58,0 / 13,3

Other dimensions and colours are possible on request.

Also possible as harnessed cable with M12 or RJ 45 plug!



Industrial Ethernet Cables



CATLine CAT 6 S / CAT 6A S Gigabit Ethernet cable, suitable for cable tracks

CATLine CAT 6 RT / CAT 6A RT Gigabit Ethernet cable, suitable for cable tracks, suitable for robots

80°C 300V CSA AWM I/II A/B 80°C 300V FT2 CE



Marking for CATLine CAT 6 S 16774630:

SAB BRÜCKSKES · D-VIERSEN · **CATLine** Cat.6 S 4x2x26AWG 1677-4630 AWM Style 20549 80°C 300V CSA AWM I/II A/B 80°C 300V FT2 CE



Construction:	CATLine CAT 6 S <i>suitable for cable tracks</i>	CATLine CAT 6A S <i>suitable for cable tracks</i>	CATLine CAT 6 RT <i>suitable for cable tracks/ suitable for robots</i>	CATLine CAT 6A RT <i>suitable for cable tracks/ suitable for robots</i>
Dimension:	4 x 2 x 26 AWG			
Conductor:	bare copper strands, fine wires			
Insulation:	special polymer			
Colour code:	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown			
Stranding:	cores twisted to pairs, pairs together			
Wrapping:	non-woven tape			
Screen:	alu foil and tinned copper braiding			
Wrapping:	non-woven tape			
Sheath material:	PUR			
Sheath colour:	green (similar RAL 6018)			

Technical data:	CATLine CAT 6 S <i>suitable for cable tracks</i>	CATLine CAT 6A S <i>suitable for cable tracks</i>	CATLine CAT 6 RT <i>suitable for cable tracks/ suitable for robots</i>	CATLine CAT 6A RT <i>suitable for cable tracks/ suitable for robots</i>
Item number:	1677-4630	1677-4631	1687-4630	1687-4631
Peak operating voltage:	max. 90 V			
Voltage UL/CSA:	300 V			
Testing voltage				
core/core:	2000 V			
core/screen:	2000 V			
Min. bending radius				
fixed laying:	5 x d			
flexible application:	10 x d			
continuously flexible:	15 x d			
Torsion angle:	---		up to ± 180°/m	
Temperature range VDE	UL/CSA: up to +80 °C			
fixed laying:	-40/+70 °C			
flexible application:	-40/+70 °C			
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1			
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 UL Horizontal Flame Test FT2			
Oil resistance:	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2			
Characteristic impedance (100 MHz):	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-5-2 / CAT 6	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-5-2 / CAT 6	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A
Flexibility:	very good			
UL Style:	20549			
Application:	suitable for EtherCAT and EtherNET/IP applications			
Absence of harmful substances:	acc. to RoHS directive of the European Union,			

item no.	type	dimension	max. core-ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈kg/km
16774630	CATLine CAT 6 S	4 x 2 x 26 AWG	1,05	7,1	32,0	57
16774631	CATLine CAT 6A S	4 x 2 x 26 AWG	1,05	7,1	32,0	57
16874630	CATLine CAT 6 RT	4 x 2 x 26 AWG	1,05	7,1	32,0	57
16874631	CATLine CAT 6A RT	4 x 2 x 26 AWG	1,05	7,1	32,0	57

Other dimensions and colours are possible on request.



**+90°C
on request!**

Also possible
as harnessed cable
with M12 or RJ 45 plug!





CATLine CAT 6A HT

Gigabit Ethernet cable – high temperature resistant

1631-4631 AWM Style 21618 150°C 600V



Marking for CATLine CAT 6A HT 16314631:

SAB BRÜCKSKES · D-VIERSEN · Cat.6A HT 4x2x26AWG 1631-4631 AWM Style 21618 150°C 600V

Construction:

Conductor:	bare copper strands, fine wires
Insulation:	FEP
Colour code:	white/blue, white/orange, white/green, white/brown
Stranding:	twisted to pairs
Wrapping:	PETP foil
Screen:	alu foil and tinned copper braiding
Sheath material:	FEP
Sheath colour:	green (similar RAL 6018)

Outstanding features:



- high temperature resistant
- low temperature resistant
- flame retardant and self-extinguishing
- oil- and chemical resistant
- UL recognized

Technical data:

Peak operating voltage:	max. 90 V
Voltage UL:	600 V
Testing voltage:	core/core 2000 V core/screen 2000 V
Min. bending radius	
<i>fixed laying:</i>	5 x d
<i>flexible application:</i>	10 x d
Temperature range	UL: up to +150 °C
<i>fixed laying:</i>	-90/+180 °C
<i>flexible application:</i>	-55/+180 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW1
Oil resistance:	very good
Chemical resistance:	very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds
Characteristic impedance:	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 (CAT 6A)
UL Style:	21618
Application:	suitable for EtherCAT and EtherNET/IP applications
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	type	dimension	max. core-ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈kg/km
16314631	CATLine CAT 6A HT	4 x 2 x 26 AWG	1,05	5,7	30,0	52

Other dimensions and colours are possible on request.

Also possible
as harnessed cable
with M12 or RJ 45 plug!



Industrial Ethernet Cables



CATLine CAT 7A S Gigabit Ethernet cable, suitable for cable tracks with UL recognition, CSA approval

CATLine CAT 7A RT Gigabit Ethernet cable, suitable for robots with UL recognition, CSA approval

20549 80°C 300V CSA AWM I/II A/B 80°C 300V FT2 CE



Marking for CATLine CAT 7A S 17774631:

SAB BRÜCKSKES · D-VIERSEN · CATLine Cat.7A S 4x2x26AWG 1777-4631 UL AWM Style 20549 80°C 300V CSA AWM I/II A/B 80°C 300V FT2 CE



Construction:	CATLine CAT 7A S <i>suitable for cable tracks</i>	CATLine CAT 7A RT <i>suitable for robots</i>
Dimension:	4 x 2 x 26 AWG, 4 x 2 x 24 AWG	
Conductor:	bare copper strands, fine wires	
Insulation:	special polymer	
Colour code:	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	
Stranding:	cores twisted to pairs, pairs screened with foil, pairs together	
Screen:	aluminized non-woven tape and tinned copper braiding	
Wrapping:	non-woven tape	
Sheath material:	PUR	
Sheath colour:	green (similar RAL 6018)	

Technical data:	CATLine CAT 7A S <i>suitable for cable tracks</i>	CATLine CAT 7A RT <i>suitable for robots</i>
Item number:	1777-4631, 1777-4431	1787-4631, 1787-4431
Peak operating voltage:	max. 90 V	
Voltage UL/CSA:	300 V	
Testing voltage core/core: core/screen:	2000 V 2000 V	
Min. bending radius fixed laying: flexible application: continuously flexible:	5 x d 10 x d 15 x d	5 x d 10 x d
Torsion angle:	up to ± 180°/m	
Temperature range VDE fixed laying: flexible application:	UL/CSA: up to +80 °C -40/+70 °C -40/+70 °C	
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 UL Horizontal Flame Test FT2	
Oil resistance:	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	
Characteristic impedance (100 MHz):	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 + VDE 0819-9-2 / CAT 7A	
Flexibility:	very good	
UL Style:	20549	
Application:	suitable for EtherCAT and EtherNET/IP applications	
Absence of harmful substances:	acc. to RoHS directive of the European Union	

item no.	type	dimension	max. core-ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈kg/km
17774631	CATLine CAT 7A S	4 x 2 x 26 AWG	1,50	8,5	38,5	81
17774431	CATLine CAT 7A S	4 x 2 x 24 AWG	1,60	10,4	46,6	101
17874631	CATLine CAT 7A RT	4 x 2 x 26 AWG	1,50	8,9	38,5	83
17874431	CATLine CAT 7A RT	4 x 2 x 24 AWG	1,60	9,3	44,0	98

Other dimensions and colours are possible on request.



Also possible as harnessed cable with M12 or RJ 45 plug!

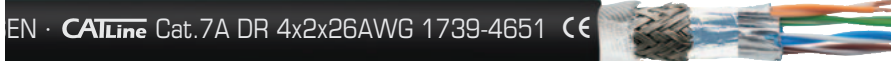


Industrial Ethernet Cables

CATLine CAT 5e DR reeling CAT 5e Industrial Ethernet cable

CATLine CAT 6A DR reeling CAT 6A Gigabit Ethernet cable

CATLine CAT 7A DR reeling CAT 7A Gigabit Ethernet cable



Marking for CATLine CAT 7A DR 17394651:

SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.7A DR 4x2x26AWG 1739-4651 CE

Construction:	CATLine CAT 5e DR <i>reeling Ethernet cable</i>	CATLine CAT 6A DR <i>reeling Ethernet cable</i>	CATLine CAT 7A DR <i>reeling Ethernet cable</i>
Dimension:	4 x 2 x 26 AWG		
Conductor:	bare copper strands, fine wires		
Insulation:	special polymer		
Colour code:	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown		
Stranding:	cores twisted to pairs, pairs together	cores twisted to pairs, pairs screened with foil, pairs together	
Wrapping:	non-woven tape		---
Screen:	alu foil and tinned copper braiding		aluminized non-woven tape and tinned copper braiding
Wrapping:	non-woven tape		
Sheath material:	PUR / supporting braid / PUR		
Sheath colour:	black (RAL 9005)		

Technical data:	CATLine CAT 5e DR <i>reeling Ethernet cable</i>	CATLine CAT 6A DR <i>reeling Ethernet cable</i>	CATLine CAT 7A DR <i>reeling Ethernet cable</i>
Item number:	1539-4651	1639-4651	1739-4651
Peak operating voltage:	max. 90 V		
Testing voltage core/core: core/screen:	750 V 750 V		
Min. bending radius	for laying and installation (fixed laying): for repeated winding action (flexible application): guided on pulleys (flexible application):		5 x d 10 x d 12 x d
Temperature range VDE fixed laying: flexible application:	-50/+90 °C -40/+90 °C		
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1		
Oil resistance:	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2		
Characteristic impedance (100 MHz):	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 / CAT 5	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 / CAT 7A
Weather resistance:	very good		
Application:	suitable for EtherCAT and EtherNET/IP applications		
Absence of harmful substances:	acc. to RoHS directive of the European Union		

item no.	type	dimension	max. core-ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈kg/km	tensile strength max. N
15394651	CATLine CAT 5e DR	4 x 2 x 26 AWG	1,05	8,5	32,0	79	200
16394651	CATLine CAT 6A DR	4 x 2 x 26 AWG	1,05	8,5	32,0	81	200
17394651	CATLine CAT 7A DR	4 x 2 x 26 AWG	1,60	10,5	38,5	117	200

Other dimensions and colours are possible on request.

Also possible as harnessed cable with M12 or RJ 45 plug!

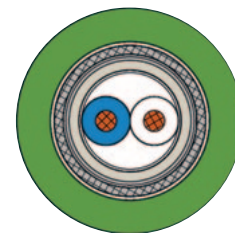


Industrial Ethernet Cables



CATLine SPE C-Track Single Pair Ethernet cable, suitable for cable tracks UL recognition

CATLine SPE Robot Single Pair Ethernet cable, suitable for robots UL recognition



Marking for CATLine SPE C-Track 17771630:

SAB BRÜCKSKES · D-VIERSEN · CATLine SPE C-Track 2xAWG26/7 1777-1630 AWM Style 20549 80°C 300V CE



Construction:	CATLine SPE C-Track <i>suitable for cable tracks</i>	CATLine SPE Robot <i>suitable for robots</i>
Dimension:	2 x 26/7 AWG, 2 x 22/19 AWG	
Conductor:	bare copper strands	
Insulation:	special polymer	
Colour code:	white, blue	
Stranding:	twisted to pairs	
Inner sheath:	SABIX®	
Screen:	alu foil and tinned copper braiding	
Wrapping:	non-woven tape	
Sheath material:	PUR	
Sheath colour:	green (similar RAL 6018)	

Technical data:	CATLine SPE C-Track <i>suitable for cable tracks</i>	CATLine SPE Robot <i>suitable for robots</i>
Item number:	1777-1630, 1777-1230	1787-1630, 1787-1230
Peak operating voltage:	max. 90 V	
Voltage UL:	300 V	
Testing voltage core/core: core/screen:	2000 V 2000 V	
Min. bending radius fixed laying: flexible application: continuously flexible:	5 x d 10 x d 15 x d	
Torsion angle:	---	up to ± 180°/m
Temperature range fixed laying: flexible application:	UL: up to +80 °C -40/+70 °C -40/+70 °C	
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	
Characteristic impedance:	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to IEC 61156-12. Bandwidth 1 - 600 MHz.	
UL Style:	20549	
Application:	suitable for EtherCAT and EtherNET/IP applications	
Absence of harmful substances:	acc. to RoHS directive of the European Union	

item no.	type	dimension	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈kg/km
17771630	CATLine SPE C-Track	2 x 26/7 AWG	4,6	16,9	29
17771230	CATLine SPE C-Track	2 x 22/19 AWG	5,7	22,7	40
17871630	CATLine SPE Robot	2 x 26/7 AWG	4,6	16,9	29
17871230	CATLine SPE Robot	2 x 22/19 AWG	5,7	22,7	40

Other dimensions and colours are possible on request.



Outstanding features:

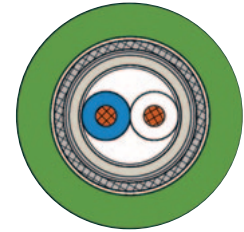
- UL recognized
- low cabling effort
- short latency periods
- small outer diameter
- PWIS uncritical
(PWIS = paint-wetting impairment substances)

Industrial Ethernet Cables



CATLine SPE HT

Single Pair Ethernet cable, high temperature resistant



Marking for CATLine SPE HT 17211620:

SAB BRÖCKSKES · D-VIERSEN · CATLine SPE HT 2xAWG26/7 1721-1620 CE

Construction:

Conductor:	bare copper strands
Insulation:	TPFP
Colour code:	white, blue
Stranding:	twisted to pairs
Inner sheath:	TPFP
Screen:	alu foil and tinned copper braiding
Sheath material:	Besilen®
Sheath colour:	green

Technical data:

Peak operating voltage:	max. 90 V
Testing voltage:	core/core 2000 V core/screen 2000 V
Min. bending radius	
fixed laying:	5 x d
flexible application:	10 x d
Temperature range	
fixed laying:	-40/+180 °C
flexible application:	-25/+180 °C
Temperature range conductor:	up to +180 °C
Characteristic impedance:	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to IEC 61156-12. Bandwidth 1 - 600 MHz.
Application:	suitable for EtherCAT and EtherNET/IP applications
Absence of harmful substances:	acc. to RoHS directive of the European Union

Outstanding features:



- high temperature resistant
- flame retardant and self-extinguishing
- very easy installation

item no.	type	dimension	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈kg/km
17211620	CATLine SPE HT	2 x 26/7 AWG	4,4	14,3	34
17211220	CATLine SPE HT	2 x 22/7 AWG	5,3	22,6	45

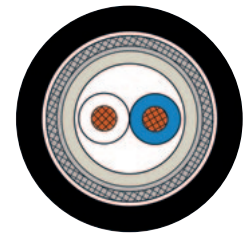
Other dimensions and colours are possible on request.

Industrial Ethernet Cables



CATLine SPE Rugged

Single-Pair-Ethernet cable for robust indoor and outdoor use



Marking for CATLine SPE Rugged 17191620:

SAB BRÖCKSKES · D-VIERSEN · CATLine SPE Rugged 2xAWG26/7 1719-1620 CE

Construction:

Conductor:	bare copper strands, 7 wires
Insulation:	TPFP
Colour code:	white, blue
Stranding:	twisted to pairs
Inner sheath:	SABIX®
Screen:	alu foil and tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	PUR 420 with mat surface
Sheath colour:	black (RAL 9005)

Outstanding features:



- flexible up to -40 °C
- absolutely weather resistant
- very easy installation
- small bending radius

Technical data:

Peak operating voltage:	max. 90 V
Testing voltage:	core/core 750 V core/screen 750 V
Min. bending radius	
fixed laying:	5 x d
flexible application:	12 x d
Temperature range	
fixed laying:	-50/+90 °C / +125 °C/2500 h
flexible application:	-40/+90 °C / +125 °C/2500 h
Temperature range conductor:	up to +180 °C
Oil resistance:	very good - TMPU acc. to EN 50363-10-2
Fuel resistance:	good
Battery acid resistance:	good
UV resistance:	acc. to HD 605
Ozone resistance:	acc. to EN 50396
Saltwater resistance:	acc. to UL 1309
Characteristic impedance:	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to IEC 61156-12. Bandwidth 1 - 600 MHz.
Application:	suitable for EtherCAT and EtherNET/IP applications
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	type	dimension	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈kg/km
17191620	CATLine SPE Rugged	2 x 26/7 AWG	4,5	16,9	29
17191220	CATLine SPE Rugged	2 x 22/7 AWG	5,4	22,7	39

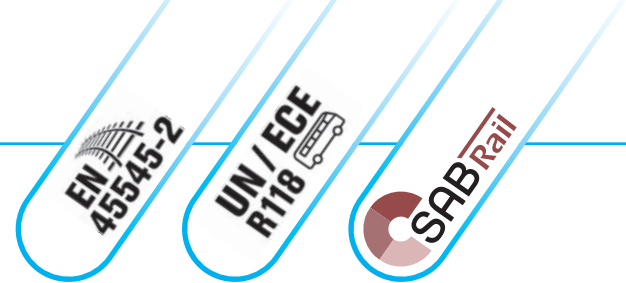
Other dimensions and colours are possible on request.

Industrial Ethernet Cables

CATLine CAT 5e R

CATLine CAT 6A R halogen-free Industrial Ethernet Cables
for Railway Technology

CATLine CAT 7A R



S · D-VIERSEN · CATLine Cat. 7A R 4x2x24AWG 1767-4621 CE 

Markings for CATLine Cat. 7A R 4x2x24AWG 1767-4621:

SAB BRÜCKSKES · D-VIERSEN · CATLine Cat. 7A R 4x2x24AWG 1767-4621 CE

Construction:	CATLine CAT 5e R <i>flexible</i>		CATLine CAT 6A R <i>flexible</i>	CATLine CAT 7A R <i>flexible</i>
Dimension:	2 x 2 x 26 AWG 2 x 2 x 24 AWG 2 x 2 x 22 AWG	4 x 2 x 24 AWG	4 x 2 x 26 AWG	
Conductor:	bare copper strands, fine wires			
Insulation:	PE			
Colour code:	blue, yellow, white, orange	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown		
Stranding:	star quad	cores twisted to pairs, pairs together		twisted to pairs with alu foil, pairs together
Wrapping:	foil			---
Screen:	alu foil und tinned copper braiding			tinned copper braiding
Sheath material:	special SABIX®			
Sheath colour:	green (similar RAL 6018)			

Technical data:	CATLine CAT 5e R <i>flexible</i>		CATLine CAT 6A R <i>flexible</i>	CATLine CAT 7A R <i>flexible</i>
Item number:	1567-2625 1567-9002 1567-9004	1567-4421	1667-4621	1767-4621
Peak operating voltage:	max. 90 V			
Testing voltage core/core: core/screen:	750 V 750 V			
Min. bending radius fixed laying: flexible application:	5 x d 12 x d			
Temperature range VDE fixed laying: flexible application:	-40/+70 °C -30/+70 °C			
Halogen-free:	acc. to EN 50306-1 + EN 50264-1. Development of HCl is ≤ 0,5% acc. to IEC 60754-1. pH-value is ≥ 4,3 acc. to IEC 60754-2. Conductivity is ≤ 10,0 µS/mm acc. to IEC 60754-2. Fluoric content ≤ 0,1% acc. to IEC 60684-2			
Fire performance:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 and EN 50305 + VDE 0260-305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2. Flame retardant acc. to ISO 6722 (UN/ECE R118)			
Smoke density:	acc. to IEC 61034 + VDE 0482-1034			
Toxicity:	acc. to EN 50305 + VDE 0260-305			
Characteristic impedance:	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 / CAT 5		100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 / CAT 7A
Flexibility:	good			
Application:	suitable for EtherCAT and EtherNET/IP applications			
Absence of harmful substances:	acc. to RoHS directive of the European Union			

item no.	type	dimension	max. core-ø mm	outer-ø mm	copper figure kg/km	cable weight ≈kg/km
15672625	CATLine CAT 5e R	2 x 2 x 26 AWG	1,05	4,0 ± 5%	16,4	25
15679002	CATLine CAT 5e R	2 x 2 x 24 AWG	1,30	5,2 ± 5%	22,7	41
15679004	CATLine CAT 5e R	2 x 2 x 22 AWG	1,60	5,9 ± 5%	29,1	52
15674421	CATLine CAT 5e R	4 x 2 x 24 AWG	1,30	8,0 ± 10%	41,2	70
16674621	CATLine CAT 6A R	4 x 2 x 26 AWG	1,05	6,8 ± 10%	31,9	55
17674621	CATLine CAT 7A R	4 x 2 x 26 AWG	1,60	7,8 ± 10%	38,5	75

Other dimensions and colours are possible on request.



fulfils fire protection requirements
R15 (EL1A) acc. to EN 45545-2
for hazard levels HL1-3

Also possible
as harnessed cable
with M12 or RJ 45 plug!



Industrial Ethernet Cables

CATLine CAT 5e R flex
CATLine CAT 6A R flex
CATLine CAT 7A R flex

continuously flexible halogen-free
 Industrial Ethernet Cables
 for Railway Technology



D-VIERSEN · CATLine Cat. 7A R flex 4x2x24AWG 1769-4431 CE 

Marking for CATLine CAT 7A R flex 17694431:

SAB BRÜCKSKES · D-VIERSEN · CATLine Cat. 7A R flex 4x2x24AWG 1769-4431 CE

Application: Suitable for flexible and protected installation in the interior for door control or in protecting tubes for outdoor laying at the bogie. Appropriate for light and medium mechanical stress.

Construction:	CATLine CAT 5e R flex <i>continuously flexible</i>		CATLine CAT 6A R flex <i>continuously flexible</i>	CATLine CAT 7A R flex <i>continuously flexible</i>
Dimension:	2 x 2 x 24 AWG 2 x 2 x 22 AWG	4 x 2 x 26 AWG 4 x 2 x 24 AWG	4 x 2 x 26 AWG / 4 x 2 x 24 AWG	
Conductor:	bare copper strands, fine wires			
Insulation:	special SABIX®			
Colour code:	blue, yellow, white, orange	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown		
Stranding:	star quad	cores twisted to pairs, pairs together		twisted to pairs with alu foil, pairs together
Wrapping:	foil			---
Screen:	alu foil und tinned copper braiding			tinned copper braiding
Sheath material:	special SABIX®			
Sheath colour:	green (similar RAL 6018)			

Technical data:	CATLine CAT 5e R flex <i>continuously flexible</i>		CATLine CAT 6A R flex <i>continuously flexible</i>	CATLine CAT 7A R flex <i>continuously flexible</i>
Item number:	1569-2435 1569-2235	1569-4431 1569-4631	1669-4431 1669-4631	1769-4431 1769-4631
Peak operating voltage:	max. 90 V			
Testing voltage core/core: core/screen:			750 V 750 V	
Min. bending radius fixed laying: flexible application: continuously flexible:			5 x d 12 x d 15 x d	
Temperature range VDE fixed laying: flexible application:			-50/+90 °C -40/+90 °C	
Halogen-free:	acc. to EN 50306-1 + EN 50264-1. Development of HCl is ≤ 0,5% acc. to IEC 60754-1. pH-value is ≥ 4,3 acc. to IEC 60754-2. Conductivity is ≤ 10,0 µS/mm acc. to IEC 60754-2. Fluoric content ≤ 0,1% acc. to IEC 60684-2			
Fire performance:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 and EN 50305 + VDE 0260-305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2. Flame retardant acc. to ISO 6722 (UN/ECE R118)			
Smoke density:	acc. to IEC 61034 + VDE 0482-1034			
Toxicity:	acc. to EN 50305 + VDE 0260-305			
Oil and fuel resistance:	acc. to EN 50264-1 + VDE 0260-264-1			
Characteristic impedance:	100Ω ± 5Ω with reference to EN 50288-2-2 / CAT 5	100Ω ± 10Ω with reference to EN 50288-2-2 / CAT 5	100Ω ± 10Ω with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω with reference to EN 50288-9-2 / CAT 7A
Flexibility:	good			
Application:	suitable for EtherCAT and EtherNET/IP applications			
Absence of harmful substances:	acc. to RoHS directive of the European Union			

item no.	type	dimension	max. core-ø mm	outer-ø mm	copper figure kg/km	cable weight ≈kg/km
15692435	CATLine CAT 5e R flex	2 x 2 x 24 AWG	1,25	5,1	22,8	40
15692235	CATLine CAT 5e R flex	2 x 2 x 22 AWG	1,55	5,8	29,2	53
15694431	CATLine CAT 5e R flex	4 x 2 x 24 AWG	1,29	7,8	42,3	81
15694631	CATLine CAT 5e R flex	4 x 2 x 26 AWG	0,99	6,5	29,7	55
16694431	CATLine CAT 6A R flex	4 x 2 x 24 AWG	1,29	7,9	42,2	80
16694631	CATLine CAT 6A R flex	4 x 2 x 26 AWG	0,99	6,5	29,7	56
17694431	CATLine CAT 7A R flex	4 x 2 x 24 AWG	1,71	9,7	46,6	109
17694631	CATLine CAT 7A R flex	4 x 2 x 26 AWG	1,45	8,6	35,8	92

Other dimensions and colours are possible on request.

fulfils fire protection requirements R15 (EL1A) and R16 (EL1B) acc. to EN 45545-2 for hazard levels HL1-3

Also possible as harnessed cable with M12 or RJ 45 plug!



Industrial Ethernet Cables

CATLine CAT 5e BL
CATLine CAT 6A BL halogen-free Ethernet cable for maritime use
CATLine CAT 7A BL



26/7AWG 1747-4621 AWM Style 21080 75°C 300V



Marking for CATLine CAT 7A BL 17474421:
 SAB BRÖCKSKES · D-VIERSEN · **CATLine** Cat. 7A BL 4x2x26/7AWG 1747-4621 AWM Style 21080 75°C 300V

Construction:	ABS CATLine CAT 5e BL		ABS CATLine CAT 6A BL	ABS CATLine CAT 7A BL
Dimension:	2 x 2 x 24 AWG 2 x 2 x 22 AWG	4 x 2 x 26 AWG	4 x 2 x 24 AWG, 4 x 2 x 26 AWG	
Conductor:	bare copper strands, fine wires			
Insulation:	special polymer			
Colour code:	blue, yellow, white, orange	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown		
Stranding:	star quad	cores twisted to pairs, pairs together		cores twisted to pairs, pairs screened with foil, pairs together
Screen:	alu foil and tinned copper braiding			tinned copper braiding
Sheath material:	special SABIX®			
Sheath colour:	black			

Technical data:	CATLine CAT 5e BL		CATLine CAT 6A BL	CATLine CAT 7A BL
Item number:	1547-9001 1547-9002	1547-4621	1647-4621, 1647-4421	1747-4621, 1747-4421
Peak operating voltage:	max. 90 V			
Voltage UL:	300 V			
Testing voltage core/core: core/screen:	2000 V 2000 V			
Min. bending radius fixed laying: flexible application (only 7 wires):	5 x d 10 x d			
Temperature range VDE fixed laying: flexible application:	UL: up to +75 °C -40/+70 °C -30/+70 °C			
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1			
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 Cat. A, UL Horizontal Flame Test FT2, UL AWM Style 21080			
Corrosiveness of conflagration gases:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases			
Smoke density:	acc. to IEC 61034 + VDE 0482-1034			
Characteristic impedance (100 MHz):	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 / CAT 5	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 / CAT 7A	
Flexibility:	good			
UL Style:	21080			
Application:	suitable for EtherCAT and EtherNET/IP applications			
Absence of harmful substances:	acc. to RoHS directive of the European Union			

item no.	type	dimension	core-ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈kg/km
15479001	CATLine CAT 5e BL	2 x 2 x 24/7 AWG	approx. 1,25	5,7	22,7	48
15479002	CATLine CAT 5e BL	2 x 2 x 22/7 AWG	max. 1,60	6,4	29,7	61
15474621	CATLine CAT 5e BL	4 x 2 x 26/7 AWG	max. 1,05	7,3	31,9	64
16474621	CATLine CAT 6A BL	4 x 2 x 26/7 AWG	max. 1,05	7,3	31,9	64
16474421	CATLine CAT 6A BL	4 x 2 x 24/7 AWG	approx. 1,33	8,3	41,1	81
17474621	CATLine CAT 7A BL	4 x 2 x 26/7 AWG	max. 1,60	8,9	38,5	85
17474421	CATLine CAT 7A BL	4 x 2 x 24/7 AWG	approx. 1,60	10,5	65,0	116

Other dimensions and colours are possible on request.

Also possible
as harnessed cable
with M12 or RJ 45 plug!



Industrial Ethernet Cables

SAB^{clean} CATLine CAT 5e S

SAB^{clean} CATLine CAT 6A S

SAB^{clean} CATLine CAT 7A S

Industrial Ethernet Cable, suitable for cable tracks especially for clean room technology



VG 1777-9003 AWM Style 20549 80°C 300V CE



Marking for SAB^{clean} CATLine CAT 7A S:

SAB BRÜCKSKES · D-VIERSEN · SAB Clean CATLine Cat.7A S 4x2x26AWG 1777-9003 AWM Style 20549 80°C 300V CE RoHS and current meter marking

Construction:	SAB ^{clean} CATLine CAT 5e S	SAB ^{clean} CATLine CAT 6A S	SAB ^{clean} CATLine CAT 7A S
Dimension:	4 x 2 x 26 AWG		
Conductor:	bare copper strands, fine wire		
Insulation:	special polymer		
Colour code:	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown		
Stranding:	cores twisted to pairs, pairs together	cores twisted to pairs, pairs screened with foil, pairs together	
Screen:	alu foil and tinned copper braiding		aluminized non-woven tape and tinned copper braiding
Wrapping:	non-woven tape		
Sheath material:	TPE		
Sheath colour:	black (RAL 9005)		

Technical data:	SAB ^{clean} CATLine CAT 5e S	SAB ^{clean} CATLine CAT 6A S	SAB ^{clean} CATLine CAT 7A S
Item number:	1577-9001	1677-9006	1777-9003
Peak operating voltage:	max. 90 V		
Voltage UL:	300 V		
Testing voltage	2000 V		
core/core:	2000 V		
core/screen:	2000 V		
Min. bending radius	5 x d		
fixed laying:	10 x d		
flexible application:	15 x d		
continuously flexible:			
Temperature range	UL: up to +80 °C		
fixed laying:	-40/+70 °C		
flexible application:	-30/+70 °C		
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 UL Horizontal Flame Test FT2		
Characteristic impedance:	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 / CAT 5	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 / CAT 7A
Oil resistance:	very good - Oil 60 °C acc. to UL 758		
Flexibility:	very good		
Air cleanliness class 1:	acc. to DIN EN 14644-1		
UL Style:	20549		
Application:	suitable for EtherCAT and EtherNET/IP applications		
Absence of harmful substances:	acc. to RoHS directive of the European Union		

item no.	type	dimension	outer-ø max. mm	copper figure kg/km	cable weight ≈kg/km
15779001	SAB Clean CATLine CAT 5e S	4 x 2 x 26 AWG	6,4	31,8	48
16779006	SAB Clean CATLine CAT 6A S	4 x 2 x 26 AWG	6,9	31,8	56
17779003	SAB Clean CATLine CAT 7A S	4 x 2 x 26 AWG	8,9	38,5	85

Other dimensions and colours are possible on request.



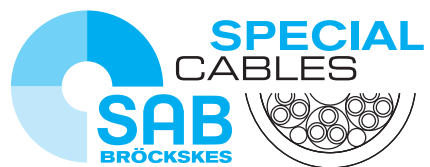
Also possible as harnessed cable with M12 or RJ 45 plug!

CABLE ASSEMBLY POSSIBLE



Cleanroom classification
DIN EN ISO 14644-1
air cleanliness class 1





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